its ICE ONWA

Service Manual

TV 2612 ICE

SERV.-MAN.100047

Farbfernseher 26/23cm 230/12V

Hyperband-IR310

REVISION	1

ACTION ELECTRONICS CO., LTD
TV ELECTRICAL SPECIFICATION

MODEL NO: CTV-310B / CTV-210B OUTPUT: 50mV DATE:
SUPPLY VOLTAGE : AC 230V/50HZ LOAD : 16 ohm TEST:
GERERAL INFORMATION : TV 75 OHM INPUT ANT. SIFE VOLTAGE 0 dB =1uV

DESCRITION		UNIT	LIMIT	NOMINAL	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
VL BAND										
TUNING RANGE	HIGH	MHZ	62.25	65.25						
	LOW	MHZ	48.25	45.25						
MAX/USABLE SENS	CH - 2	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 3	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 4	dB	32/46	26 /40	/	/	/	/	/	/
IF REJ.	CH - 3	dB	40	50						
IMAGE REJ.	CH - 3	dB	40	50						
VHF BAND										
TUNING RANGE	HIGH	MHZ	224.25	228.00						
	LOW	MHZ	175.25	140.00						
MAX/USABLE SENS	CH - 5	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 9	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 12	dB	32/46	26 /40	/	/	/	/	/	/
IF REJ.	CH - 9	dB	50	60						
IMAGE REJ.	CH - 9	dB	40	50						
UHF BAND										
TUNING RANGE	HIGH	MHZ	855.25	860.00						
	LOW	MHZ	471.25	435.00						
MAX/USABLE SENS	CH - 21	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 30	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 40	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 50	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 60	dB	36/52	32 /46	/	/	/	/	/	/
IF REJ.	CH - 40	dB	40	50						
IMAGE REJ.	CH - 40	dB	30	40						
CATV TUNER TELEFUNKEN		CH	2900KHC S1->S20		/	/	/	/	/	/
		CH	3300KHC S1->S41		/	/	/	/	/	/
ADJ. PIX. ATT.		dB	20	30						
ADJ. SND. ATT.		dB	20	30						
SELF. SND. ATT.		dB	20± 6							
CONTRAST RANGE		dB	4	6						

REVISION	2

DESCRITION	UNIT	LIMIT	NOMINAL	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
SOUND									
MAX. OUTPUT	mW	700	1000						
THD. OUTPUT 10 %	mW	500	700						
REF. THD	%	5	3						
S / N	dB	30	35						
AM SUPP.	dB	25	30						
MIN. HUM	mV	30	15						
RESPONSE FH 6 KHZ	dB	-3± 6	-3± 3						
FL 125 HZ	dB	-3± 6	-3± 3						
SIF. FREQ. ERROR	KHZ	± 10	0						
LIMIT SENS.	dB	80	70						
PICTURE									
LINEARITY VERT.	%	15	10						
HOR.	%	25	15						
PINCUSHION DIST.	%	2	1						
BARREL DIST.	%	2	1						
KEYSTANE DIST.	%	2	1						
V / H RATIO	%	100± 5	100%						
LUMINANCE MAX	lux	200	250						
MIN	lux	50	30						
VA TEST									
H. V. MAX	KV	16± 1	16						
H. V. MIN	KV	15± 1	15						
REG. VOLTAGE	V	10.8± 0.5	10.8						
DELAY AGC. VOLTAGE	V	5± 0.5	5						
REG. RIPPLE VOLTAGE	mV	30	15						
DC CONSUMPTION	W	46	44						
AC CONSUMPTION	W	65	59						

ALIGNMENT PROCEDURE

REGULATOR ADJUSTMENT

NOTE: MALADJUSTMENT OF THE LOW VOLTAGE REGULATOR OR THE HORIZONTAL OSCILLATOR MAY RESULT IN DAMAGE TO THE HORIZONTAL OUTPUT TRANSISTOR OR PULSE LIMITER DIODE.
THE FOLLOWING PROCEDURES ARE RECOMMENDED TO INSURE SAFE OPERATION.

1. CONNECT THE TV TO AC 110~240V THEN ADJUST THE AC SWITCHING MODE POWER REGULATOR SVR1 TO DC 12V.
2. CONNECT A DC DIGITAL VOLTMETER OR OTHER PRECISION ACCURACY VOLTMETER TO THE COLLECTOR OF THE REGULATOR OUTPUT TRANSISTOR QPD1. (T.P1)

HORIZONTAL OSCILLATOR ADJUSTMENT

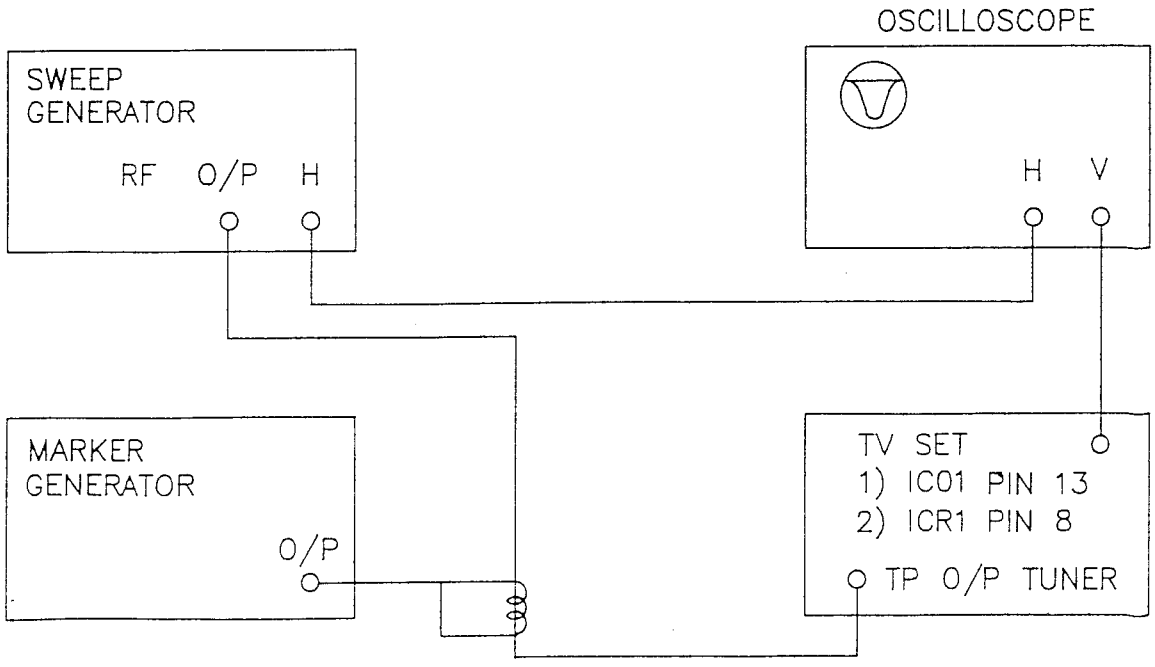
1. POWER ADJUSTMENT
   ADJUST THE REGULATOR VRD1 TO DC 10.8V.
2. VERTICAL HIGHTNESS ALIGNMENT
   ADJUST THE VERTICAL HIGHTNESS VRV1 & VRV2, ENABLE THE CIRCLE OF PICTURE APPROACH TO CIRCLE.
3. HORIZONTAL POSITION ALIGNMENT
   ADJUST HORIZONTAL POSITION VRH1, LET THE SQUARE SIGNAL IN THE CENTER OF THE SCREEN.
4. RF AGC ALIGNMENT
   ADJUST VIF PROCESS AGC CONTROL VRI1 AT INPUT SIGNAL INTENSITY 50dB, THE SCREEN COULD LOOKING CLEAR AND 80dB, THE SCREEN DON'T INFLECT.
5. WHITE BALANCE ALIGNMENT
   ADJUST THE VRY4, VRY5, AT CENTER POSITION. ADJUST SCREEN VR, LET THE SCREEN WILL BE LITTLE BRIGHTNESS. ADJUST VRY4 LET THE SCREEN TO BE YELLOW, AND THEN ADJUST VRY5 LET THE SCREEN APPROACH TO WHITE.
6. FOCUS ADJUSTMENT
   ADJUST FOCUS VR, LET THE STRIP IN THE SCREEN TO BE CLEAR.
7. SCREEN ADJUSTMENT
   ADJUST SCREEN VR LET THE BRIGHTNESS SUIT AS DESIRED.

GENERAL ALIGNMENT INSTRUCTIONS

1. VIDEO IF ALIGNMENT

TEST EQUIPMENT CONNECTION (SEE FIGURE).
OSCILLOSCOPE: CONNECT TO THE (1). IC01 PIN 13.
(2). ICR1 PIN 8.
SWEEP GENERATOR: CONNECT THROUGH A MATCHING PAD TO THE TEST POINT (T.P) OF THE TUNER.
MARKER GENERATOR: COUPLE LOOSELY TO THE OUTPUT CABLE OF SWEEP GENERATOR.

ADJUST SWEEP GENERATOR TO LOWEST SIGNAL LEVEL CONSISTENT WITH USABLE			
STEP	SWEEP FREQUENCY	MARKER FREQUENCY	REMARK
1) ADJUST VIF DETECTOR LI01 FOR MARKER POINT MAX.	25~45 MHz (45~65 MHz FOR JAPAN). 30~50 MHz FOR CCIR.	SYSTEM B, G, H, 38.9 MHz SYSTEM I 36.9 MHz SYSTEM M, N 45.75 MHz (58.75 MHz FOR JAPAN) (34.7 MHz FOR AUSTRARIA SYSTEM)	IN THE PARENTHESIS FOR AFC CORRECTION.
2) ADJUST VIF DETECTOR LI01 FOR MARKER POINT MAX.	25~45 MHz (45~65 MHz FOR JAPAN). 30~50 MHz FOR CCIR.	SYSTEM B, G, H, 38.9 MHz SYSTEM I 36.9 MHz SYSTEM M, N 45.75 MHz (58.75 MHz FOR JAPAN) (34.7 MHz FOR AUSTRARIA SYSTEM)	IN THE PARENTHESIS FOR AFC CORRECTION.



VIDEO IF ALIGNMENT CONNECTING FIGURE

2. SOUND IF ALIGNMENT

TEST EQUIPMENT CONNECTION

SIGNAL GENERATOR: CONNECT TO TEST POINT (T.P) OF THE TUNER THROUGH A MATCHING PAD.

OSCILLOSCOPE: CONNECT TO THE ICA1 PIN 2.

ALIGNMENT PROCEDURE

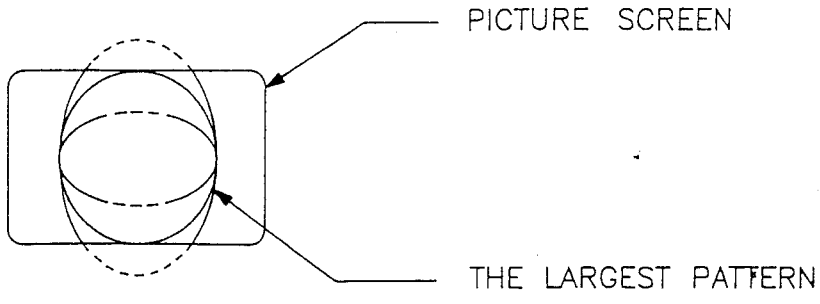
STEP	GENERATOR	SCOPE
DON'T ADJUST (PLEASE CHECK)	SYSTEM B,G,H, 33.4 MHz SYSTEM M,N 41.25 MHz (54.25 MHz FOR JAPAN) SYSTEM I 33.5 MHz. SYSTEM D,K, 32.4 MHz, 1 KHz FM MOD DEVIATION 25 KHz 80 dB OUTPUT.	CONNECT TO THE ICA1 PIN 2

3. VERTICAL DEFLECTION ALIGNMENT

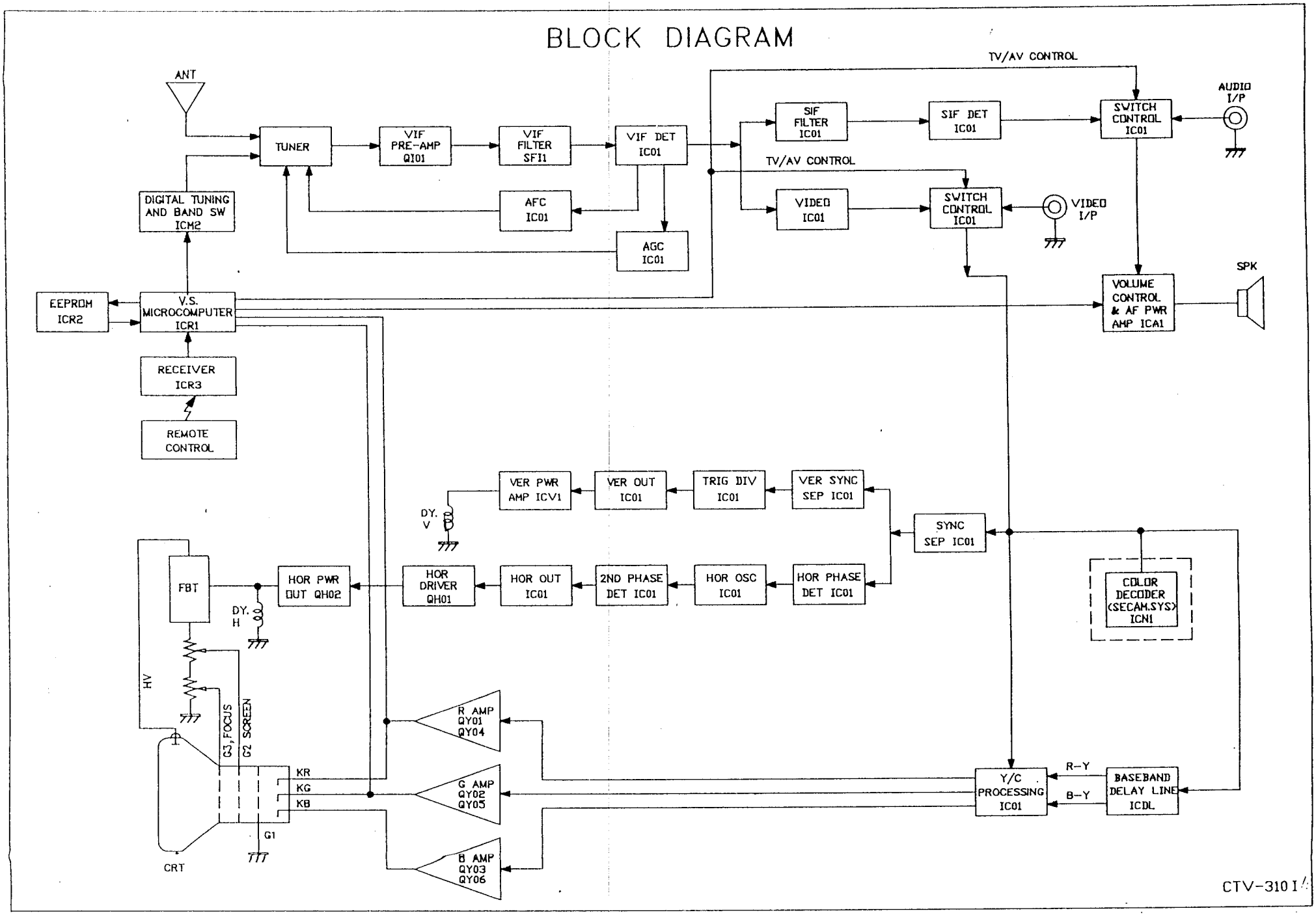
(1) TUNE THE RECEIVER IN A TEST PATTERN.

(2) ADJUST V-SIZE CONTROL VRV1 (300 ohm). WHEN THE INSIDE OF THE LARGEST CIRCLE OF TEST PATTERN REACHES NEAR ROUND PATTERN. (SEE THE FIGURE)

(3) IF THE PATTERN NOT AT CENTER POSITION, ADJUST V-POSITION CONTROL VRV2 (5K OHM).

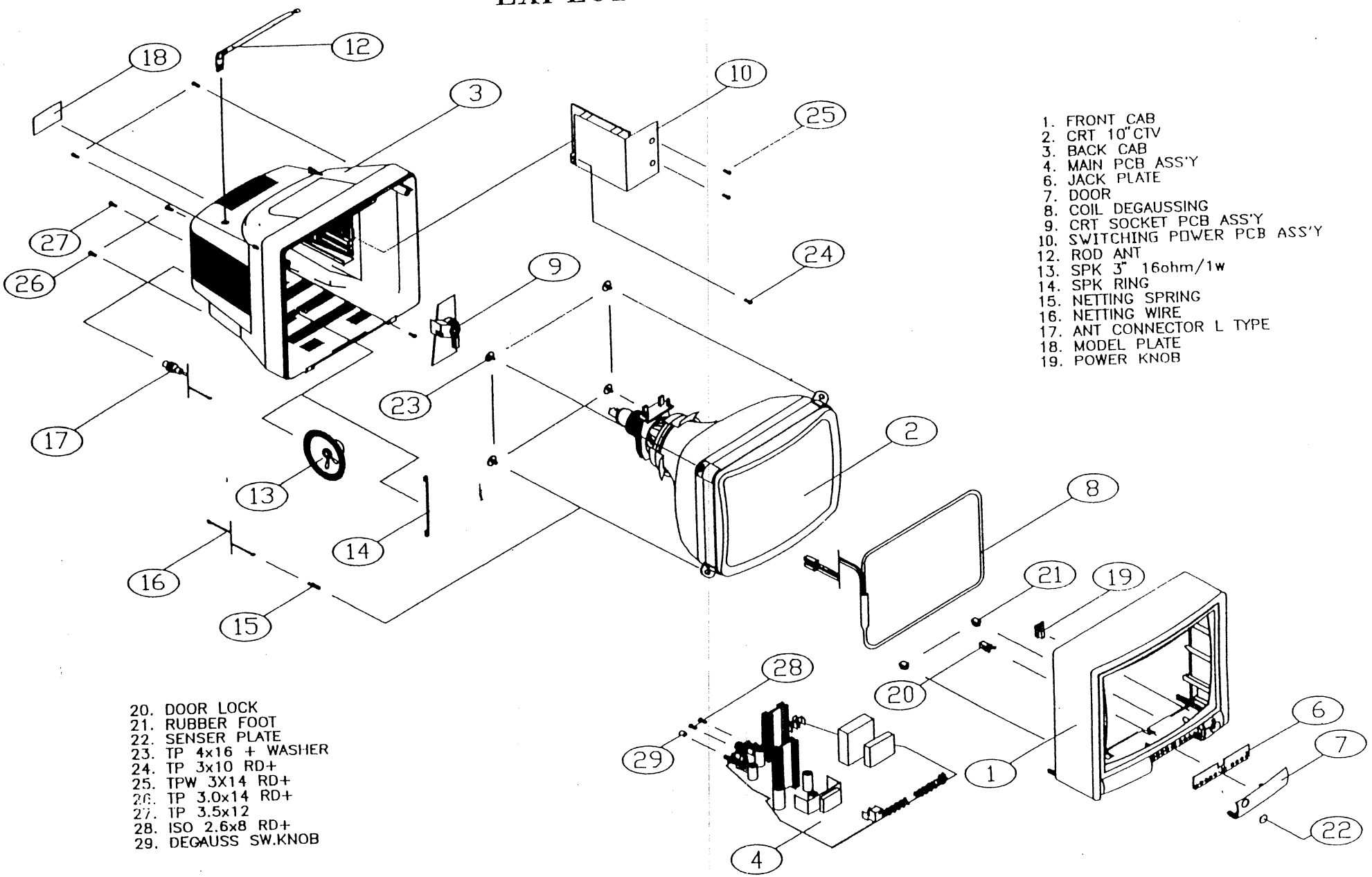


BLOCK DIAGRAM



CTV-310 I

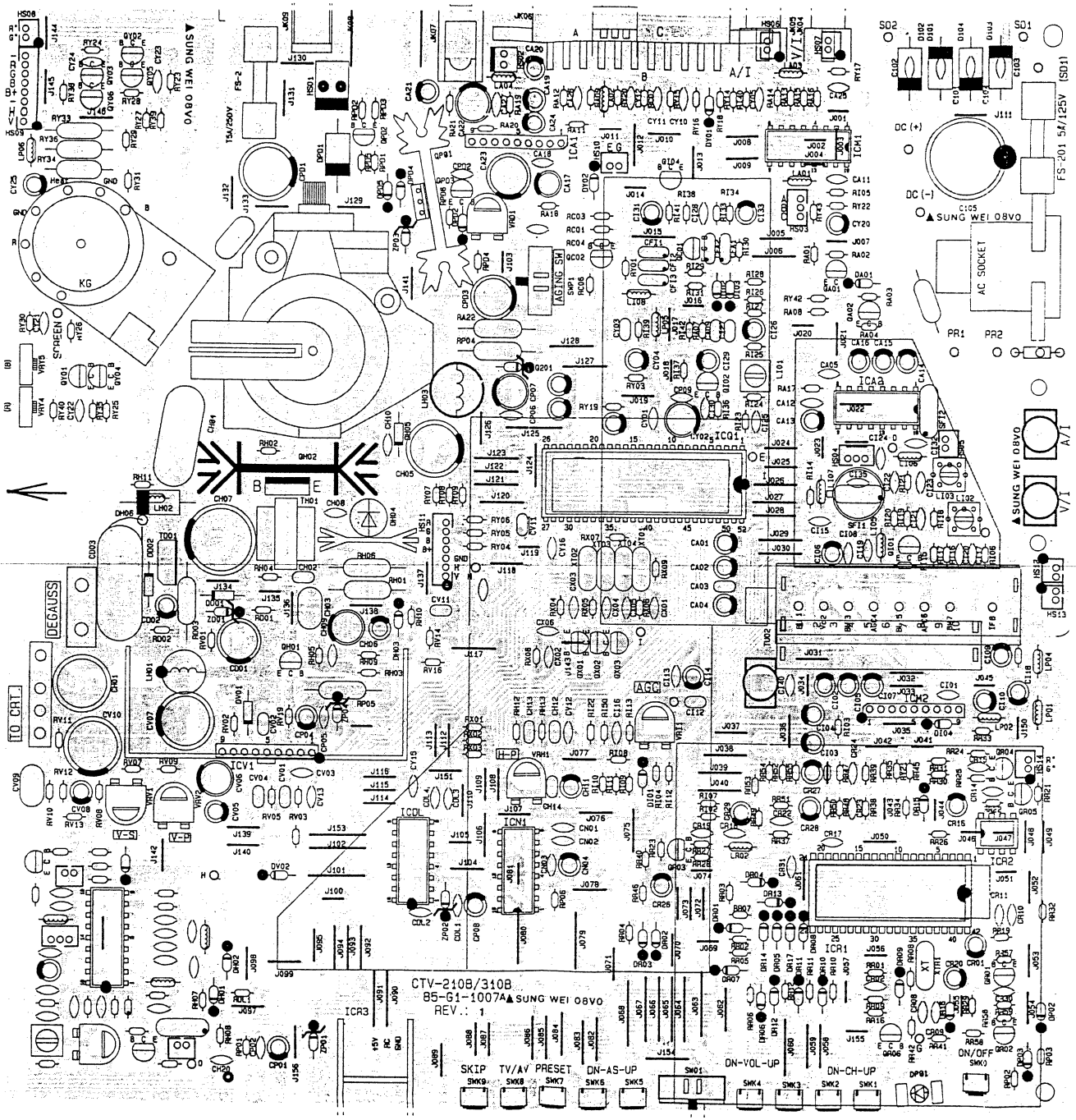
EXPLODE VIEW



1. FRONT CAB
2. CRT 10"CTV
3. BACK CAB
4. MAIN PCB ASS'Y
6. JACK PLATE
7. DOOR
8. COIL DEGAUSSING
9. CRT SOCKET PCB ASS'Y
10. SWITCHING POWER PCB ASS'Y
12. ROD ANT
13. SPK 3" 16ohm/1w
14. SPK RING
15. NETTING SPRING
16. NETTING WIRE
17. ANT CONNECTOR L TYPE
18. MODEL PLATE
19. POWER KNOB

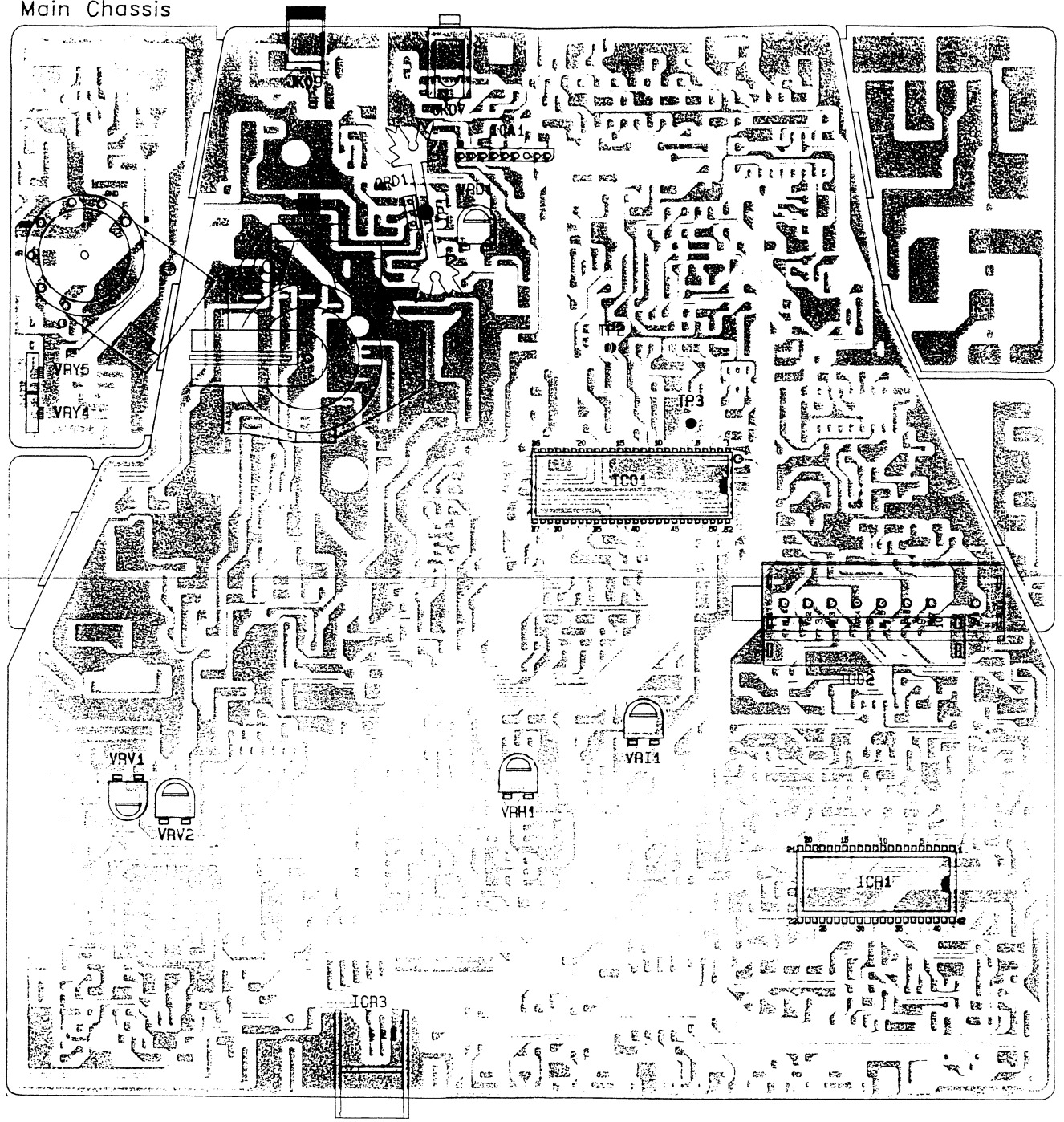
20. DOOR LOCK
21. RUBBER FOOT
22. SENSER PLATE
23. TP 4x16 + WASHER
24. TP 3x10 RD+
25. TPW 3X14 RD+
26. TP 3.0x14 RD+
27. TP 3.5x12
28. ISO 2.6x8 RD+
29. DEGAUSS SW.KNOB

MAIN P.C.B. TOP VIEW

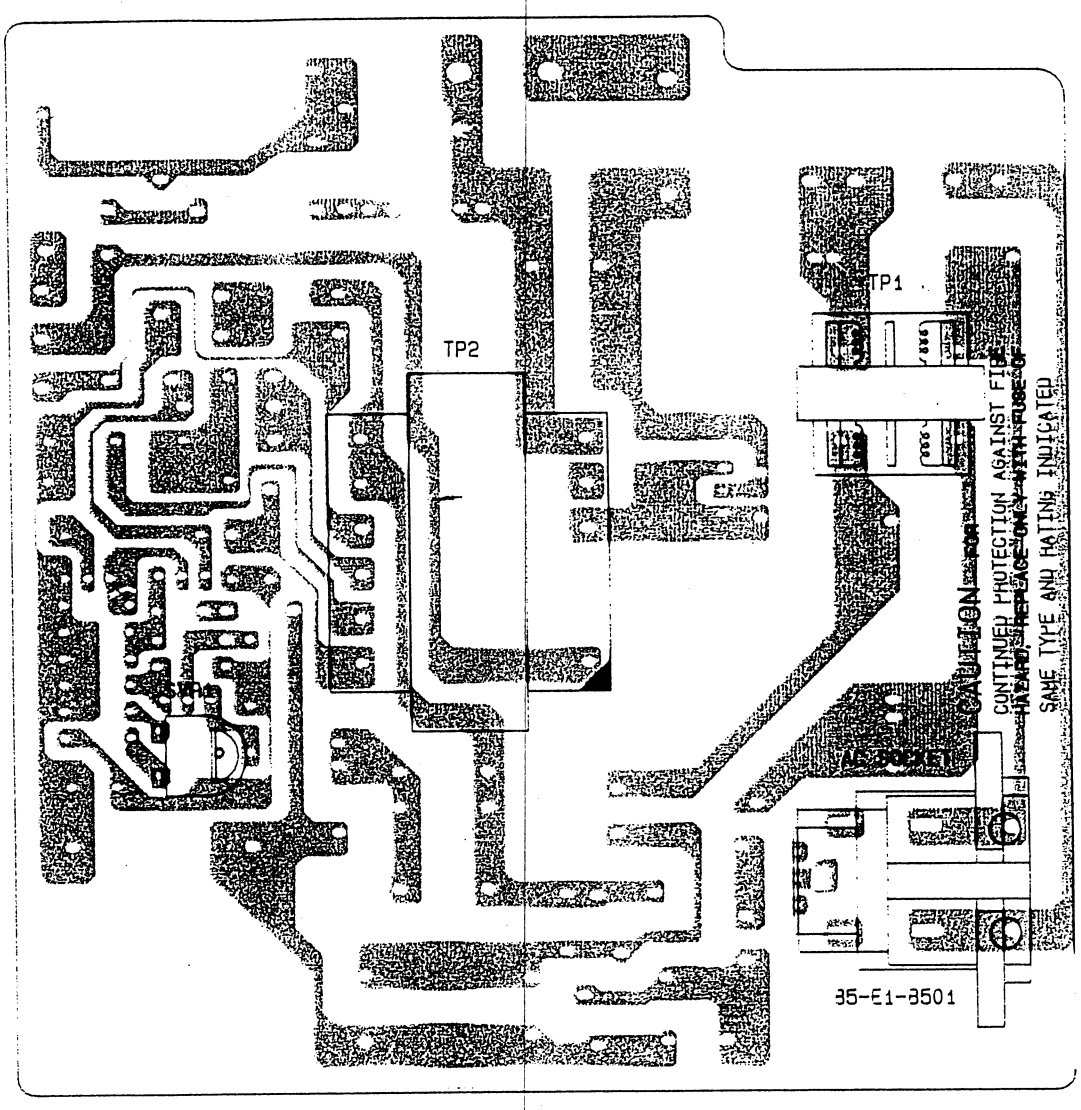


CHASSIS ALIGNMENT POINTS

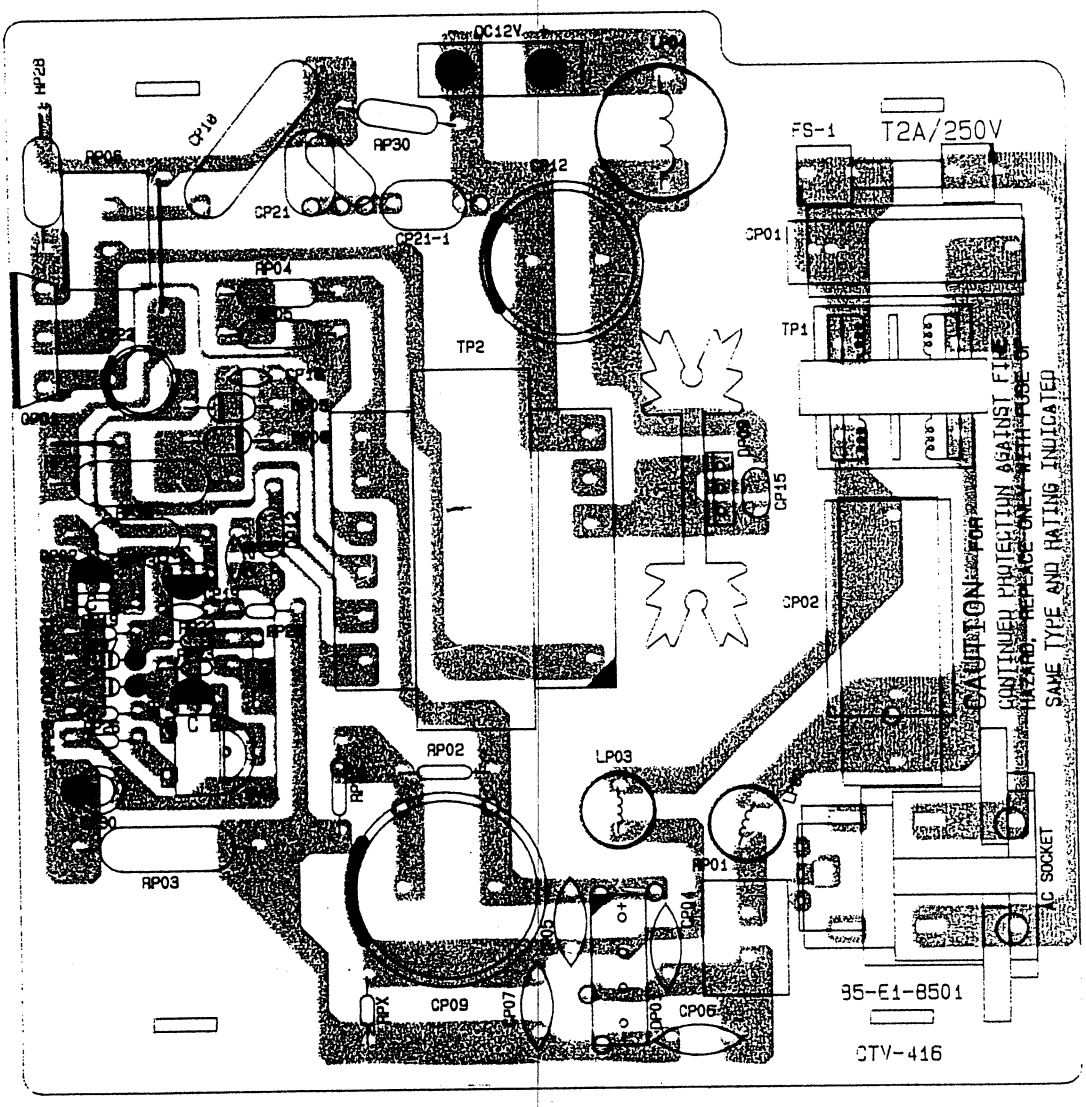
Main Chassis

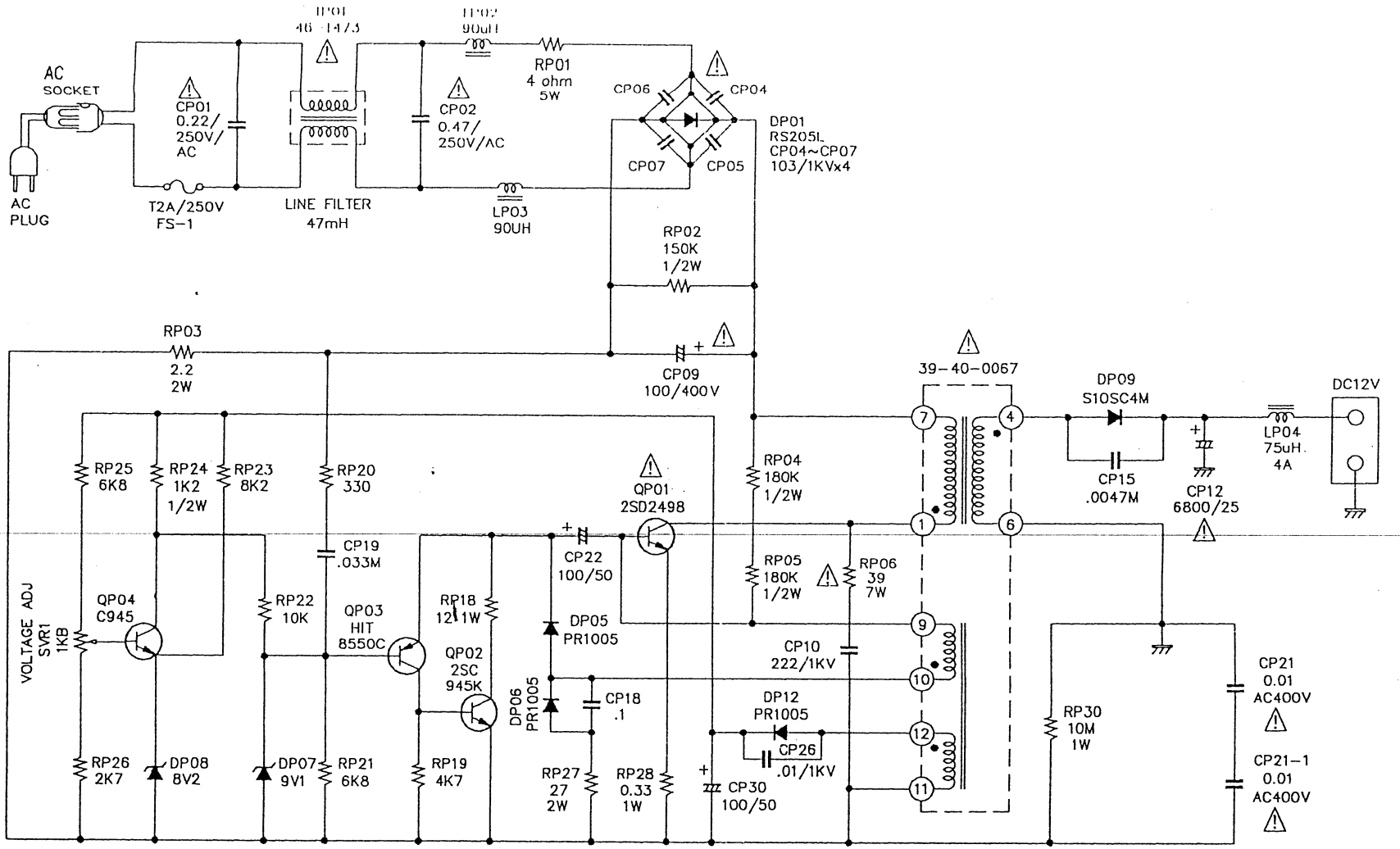


Switch Power Chassis



SWITCH POWER P.C.B





CTV-210 B/U/F/DK
CTV-310 B/U/I/L
CTV-416 L
CTV-417 B

SUBFIX	MOD RECORD
AE	1996/9/19
AG	1997/3/4
AH	
AI	
AJ	

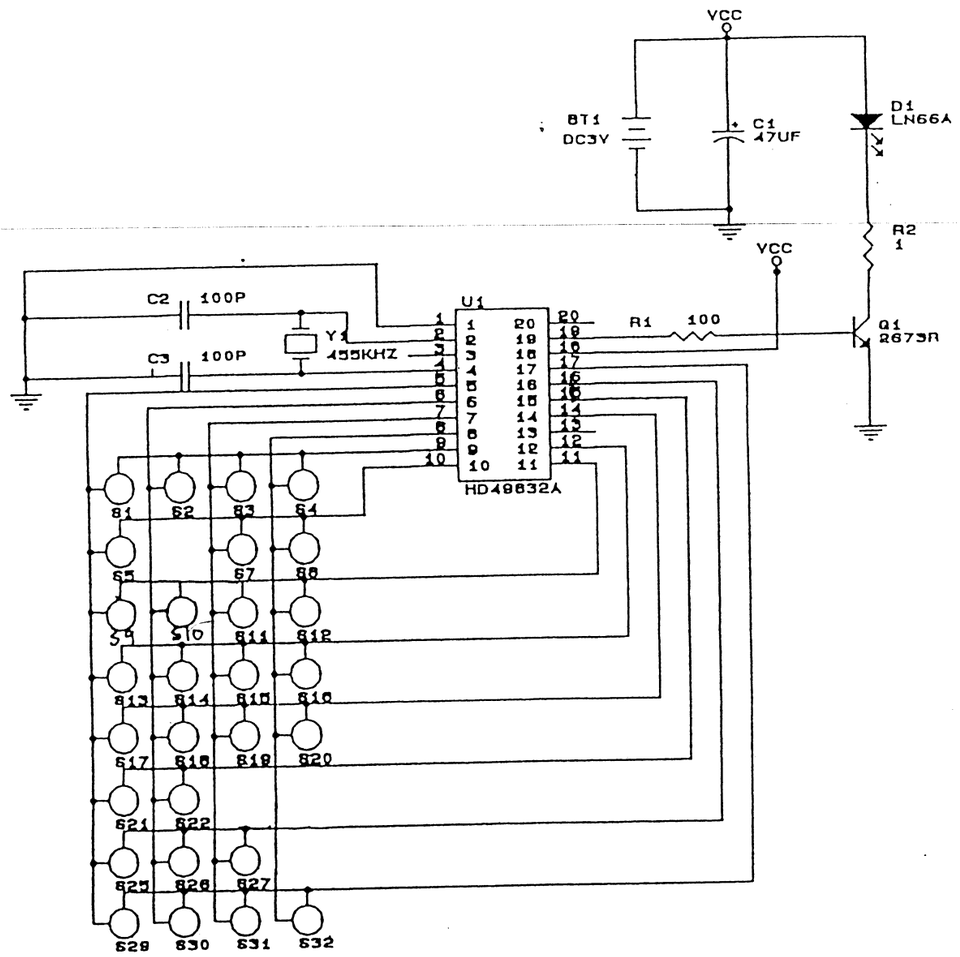
SUBFIX	MOD RECORD
AA	1994/04/07
AB	1995/4/27
AC	1995/8/19
AD	1996/1/11
AE	1996/6/12

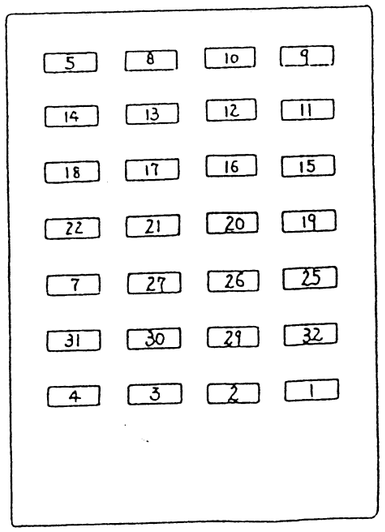
ACTION ELECTRONIS CO., LTD.
億聲電子股份有限公司

TITLE: CTV-310 SWITCH POWER SCHEMATIC DIAGRAM

DRAWN	DESIGN	APPROVED	DRAWING NO	REV
曾美華			05-G1-1321	7
				SH3

REMOTE CONTROL SCHEMATIC DIAGRAM





TU01 TUNER FOR ALTERNATED

ANT AGC BU VC BH BL AFC BW IF NC

TU02 TUNER

ICA1 AN5265

ICM2 LA7910

ICR1 M34300-012

ICR2 MB0011

ICR3 RECEIVER

IC01 TDA8361 (PAL/NTSC)

ICV1 TDA 3653B

ICD1 TDA4662

SVK9 SKIP

SVK1 CH▲

SVK2 CH▼

SVK5 AS▲

SVK0 ON/OFF

SVK7 PRESET

SVK3 VOL▲

SVK4 VOL▼

SVK6 ASV

SVK8 BAND/TV/AV

AGING SWITCH

SPK 16 OHM

AC PLUG

AC SOCKET

HS01

SMPS

JK09 DC JACK

FS-2 T5A/250V

DPD1 1N5400

CPD1 2200/25

DP01 LED

FBT

H.V.

SCREEN VR

FOCUS VR

DEGAUSSING COIL

SUBFIX	MOD RECORD	SUBFIX	MOD RECORD
AF	1996/1/12	AA	1994/8/23
AG	1996/2/15	AB	1994/12/15
AH	1996/5/21	AC	1994/12/23
AI		AD	1995/2/8
AJ		AE	1995/4/18

ACTION ELECTRONIS CO., LTD.
恒聲電子股份有限公司

TITLE: CTV-3101/B SCHEMATIC DIAGRAM

DRAWN	CHECK	APPROVED	DRAWING NO	REV
曾美華			05-01-1322	5
				SH2

(IRRADIO) (LENCO) (OKANO) (AWA)

(MARK)